IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Previously Presented): A sulfonamide compound of the formula (I):

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^2 \quad (I)$$

wherein

R^1 is an optionally substituted alkyl, an optionally substituted alkenyl, an optionally substituted alkynyl, an optionally substituted cyclo(lower)alkyl, an optionally substituted aryl or an optionally substituted heterocyclic group;

A is an optionally substituted heteropolycyclic group in which sulfur is the only heteroatom(s);

X is an alkylene, an oxa, an oxa(lower)alkylene, a lower alkylene-oxa, a carbonyl, a lower alkenylene, an optionally substituted imino, an optionally N-substituted imino(lower)alkylene, an optionally N-substituted lower alkyleneimino, a thioxa(lower)-alkylene or a lower alkylenethioxa; and

R^2 is an optionally substituted aryl, an optionally substituted heterocyclic group or a substituted biphenylyl;

or a salt thereof.

Claim 2 (Currently Amended): The sulfonamide compound of claim 1, wherein,

R^1 is an optionally substituted alkyl, an optionally substituted alkenyl, an optionally substituted alkynyl, an optionally substituted cyclo(lower)alkyl, an optionally substituted aryl or an optionally substituted heterocyclic group, wherein, when these groups are substituted, the substituent is at least one member selected from the group consisting of alkyl, cyclo(lower)alkyl, alkenyl, alkenyl, lower alkanoyl, lower alkoxy, aryl, heterocycle(lower)alkyl, halogen, amino, substituted amino, lower alkylsulfonyl, lower

~~alkylsulfonyl~~ alkylsulfinyl, lower alkylthio, cyano, carboxy, protected carboxy, carbamoyl, mono(lower)alkylcarbamoyl, di(lower)alkylcarbamoyl, nitro, halo(lower)alkyl, aryl(lower)alkyl, aryl(lower)alkenyl, aryl(lower)alkoxy, lower alkoxy substituted by substituted amino, cyclo(lower)alkyl(lower)alkoxy, cyclo(lower)alkyl(lower)alkyl, aryloxy(lower)alkyl, acyloxy(lower)alkyl; hydroxy(lower)alkyl, mono- or di(lower)alkylamino(lower)alkyl, aryl(lower)alkoxy(lower)alkyl, arylthio(lower)alkyl, heterocycle(lower)alkoxy, heterocycleoxy(lower)alkyl, aryl(lower)alkylthio, arylureido, lower alkoxy(lower)alkoxy, aryl(lower)alkynyl, lower alkyl substituted by optionally substituted divalent heterocyclic group and optionally substituted heterocyclic group;

A is a heteropolycyclic group in which sulfur is the only heteroatom(s) which is optionally substituted by at least one member selected from the group consisting of alkyl, oxo, thioxo, halogen, lower alkoxy, lower alkylthio, cyclo(lower)alkyl, optionally substituted amino, aryl, heterocyclic group, lower alkylsulfonyl and lower ~~alkylsulfonyl~~ alkylsulfinyl; and

R^2 is an optionally substituted aryl, an optionally substituted heterocyclic group or a substituted biphenylyl, wherein, when these groups are substituted, the substituent is at least one member selected from the group consisting of alkyl, cyclo(lower)alkyl, alkenyl, alkynyl, lower alkanoyl, lower alkoxy, aryl, heterocycle(lower)alkyl, halogen, amino, substituted amino, lower alkylsulfonyl, lower ~~alkylsulfonyl~~ alkylsulfinyl, lower alkylthio, cyano, carboxy, protected carboxy, carbamoyl, mono(lower)alkylcarbamoyl, di(lower)alkylcarbamoyl, nitro, halo(lower)alkyl, aryl(lower)alkyl, aryl(lower)alkenyl, aryl(lower)alkoxy, lower alkoxy substituted by substituted amino, cyclo(lower)alkyl(lower)alkoxy, cyclo(lower)alkyl(lower)alkyl, aryloxy(lower)alkyl, acyloxy(lower)alkyl, hydroxy(lower)alkyl, mono- or di(lower)alkylamino(lower)alkyl, aryl(lower)alkoxy(lower)alkyl, arylthio(lower)alkyl, heterocycle(lower)alkoxy,

heterocycleoxy(lower)alkyl, aryl(lower)alkylthio, arylureido, lower alkoxy(lower)alkoxy, aryl(lower)alkynyl, lower alkyl substituted by optionally substituted divalent heterocyclic group and optionally substituted heterocyclic group;

or a salt thereof.

Claim 3 (Previously Presented): The sulfonamide compound of claim 2, wherein,

R^1 is an optionally substituted alkyl, an optionally substituted alkenyl, an optionally substituted alkynyl, an optionally substituted cyclo(lower)alkyl, an optionally substituted phenyl or an optionally substituted heterocyclic group, wherein when these groups are substituted, the substituent is at least one member selected from the group consisting of alkyl, cyclo(lower)alkyl, alkenyl, alkynyl, lower alkanoyl, lower alkoxy, phenyl, heterocycle(lower)alkyl, halogen, amino, lower alkanoylamino, mono(lower)alkylamino, di(lower)alkylamino, N-(lower)alkyl-N-acylamino, lower alkylsulfonylamino, aryl(lower)alkylamino, N-heterocycle-N-(lower)alkylamino, arylsulfonylamino, arylcarbonylamino, lower alkylsulfonyl, lower alkylsulfinyl, lower alkylthio, cyano, carboxy, protected carboxy, carbamoyl, mono(lower)alkylcarbamoyl, di(lower)alkylcarbamoyl, nitro, halo(lower)alkyl, aryl(lower)alkyl, aryl(lower)alkenyl, aryl(lower)alkoxy, lower alkanoylamino(lower)alkoxy, mono(lower)alkylamino(lower)alkoxy, di(lower)alkylamino(lower)alkoxy, N-(lower)alkyl-N-acylamino(lower)alkoxy, lower alkylsulfonylamino(lower)alkoxy, aryl(lower)alkylamino(lower)alkoxy, N-heterocycle-N-(lower)alkylamino(lower)alkoxy, arylsulfonylamino(lower)alkoxy, arylcarbonylamino(lower)alkoxy, cyclo(lower)alkyl(lower)alkoxy, cyclo(lower)alkyl(lower)alkyl, aryloxy(lower)alkyl, acyloxy(lower)alkyl, hydroxy(lower)alkyl, mono- or di(lower)alkylamino(lower)alkyl, aryl(lower)alkoxy(lower)alkyl, arylthio(lower)alkyl, heterocycle(lower)alkoxy, heterocycle-

oxy(lower)alkyl, aryl(lower)alkylthio, arylureido, lower alkoxy(lower)alkoxy, aryl(lower)alkynyl, lower alkyl substituted by optionally substituted divalent heterocyclic group and optionally substituted heterocyclic group; and

A is a heterodicyclic group in which sulfur is the only heteroatom(s) which is optionally substituted by at least one member selected from the group consisting of alkyl, oxo, thioxo, halogen, lower alkoxy, lower alkylthio, cyclo(lower)alkyl, amino, lower alkanoylamino, mono(lower)alkylamino, di(lower)alkylamino, N-(lower)alkyl-N-acylamino, lower alkylsulfonylamino, aryl(lower)alkylamino, N-heterocycle-N-(lower)alkylamino, arylsulfonylamino, arylcarbonylamino, aryl, heterocyclic group, lower alkylsulfonyl and lower alkylsulfinyl,

wherein the above-mentioned heterodicyclic group is a saturated or unsaturated 7- to 12-membered heterobicyclic group having 1 to 3 sulfur atoms,

or a salt thereof.

Claim 4 (Currently Amended): The sulfonamide compound of claim 3, wherein A is a heterodicyclic group selected from the group consisting of benzothiophenyl, dihydrodithianaphthalenyl, and dithianaphthalenyl which may be optionally substituted by at least one member selected from the group consisting of lower alkyl and oxo,

or a salt thereof.

Claim 5 (Currently Amended): The sulfonamide compound of claim 4, wherein,

R^1 is an alkyl, an alkenyl, a phenyl(lower)alkenyl, a quinolyl, a phenyl optionally substituted by a substituent selected from the group consisting of nitro, alkyl and alkenyl or a thienyl optionally substituted by halogen;

A is benzothiophenyl which is optionally substituted by alkyl or oxo;

X is a lower alkylene, an oxa(lower)alkylene or an oxa; and

R^2 is a phenyl optionally substituted by a substituent selected from the group consisting of alkyl, alkenyl, alkynyl, lower alkanoyl, lower alkoxy, phenyl, imidazolyl(lower)alkyl, piperidinyl(lower)alkyl, halogen, amino, lower alkanoylamino, mono(lower)alkylamino, di(lower)alkylamino, N-(lower)alkyl-N-(lower)alkanoylamino, N-(lower)alkyl-N-benzoylamino, lower alkylsulfonylamino, phenyl(lower)alkylamino, phenylsulfonylamino, benzoylamino, lower alkylsulfonyl, lower alkylsulfinyl ~~alkylsulfmyl~~, lower alkylthio, cyano, carboxy, lower alkoxycarbonyl, cyclo(lower)alkyloxycarbonyl, mono(lower)alkylcarbamoyl, nitro, halo(lower)alkyl, phenyl(lower)alkyl, phenyl(lower)alkenyl, phenyl(lower)alkoxy, (N-pyridyl-N-(lower)alkylamino)(lower)alkoxy, cyclo(lower)alkyl(lower)alkoxy, cyclo(lower)alkyl(lower)alkyl, phenoxy(lower)alkyl, lower alkylsulfonyloxy(lower)alkyl, hydroxy(lower)alkyl, di(lower)alkylamino(lower)alkyl, phenyl(lower)alkoxy(lower)alkyl, phenylthio(lower)alkyl, thienyl(lower)alkoxy, pyridyloxy(lower)alkyl, phenyl(lower)alkylthio, phenylureido, lower alkoxy(lower)alkoxy, phenyl(lower)alkynyl, dioxothiazolidylidene(lower)alkyl and thienyl optionally substituted by halogen; naphthyl optionally substituted by halogen; a 4-phenylphenyl substituted by halogen; a thienyl optionally substituted by halogen; a benzothienyl optionally substituted by halogen; a quinolyl optionally substituted by halogen; or a benzooxolanyl optionally substituted by halogen,

or a salt thereof.

Claim 6 (Previously Presented): The sulfonamide compound of claim 5, wherein,

R^1 is an alkyl, an alkenyl, a phenyl(lower) alkenyl, a phenyl optionally substituted by a substituent selected from the group consisting of alkyl and alkenyl or a thienyl optionally substituted by halogen;

A is benzo[b]thiophenyl which is optionally substituted by one or two alkyl;

X is an alkylene; and

R^2 is a phenyl optionally substituted by a substituent selected from the group consisting of alkyl, alkenyl, alkynyl, lower alkoxy, phenyl, halogen, di(lower)alkylamino, lower alkylthio, lower alkoxycarbonyl, nitro, halo(lower)alkyl, phenyl(lower)alkyl, phenyl(lower)alkenyl, phenyl(lower)alkoxy, cyclo(lower)alkyl(lower)alkoxy, phenoxy(lower)alkyl, phenyl(lower)alkoxy(lower)alkyl, phenyl(lower)alkynyl and thienyl optionally substituted by halogen; a naphthyl optionally substituted by halogen; or a 4-phenylphenyl substituted by halogen,

or a salt thereof.

Claim 7 (Previously Presented): The sulfonamide compound of claim 4, wherein

A is benzothiophenyl, dihydrodithianaphthalenyl, or dithianaphthalenyl, which is optionally substituted by alkyl; and

R^2 is a phenyl substituted by halogen, said phenyl being optionally substituted by a substituent selected from the group consisting of alkyl, alkenyl, alkenyl, lower alkoxy, phenyl, halogen, di(lower)alkylamino, lower alkylthio, lower alkoxycarbonyl, nitro, halo(lower)alkyl, phenyl(lower)alkyl, phenyl(lower)alkenyl, phenyl(lower)alkoxy, cyclo(lower)alkyl(lower)alkoxy, phenoxy(lower)alkyl, phenyl(lower)alkoxy(lower)alkyl, phenyl(lower)alkynyl and thienyl optionally substituted by halogen, or a naphthyl substituted by halogen,

or a salt thereof.

Claim 8 (Previously Presented): The sulfonamide compound of claim 7, wherein A is benzothiophenyl, dihydrodithianaphthalenyl, or dithianaphthalenyl, which is substituted by 1 or 2 lower alkyl, or a salt thereof.

Claim 9 (Currently Amended): The sulfonamide compound of claim 7, wherein A is [[1]] benzothiophenyl, dihydrodithianaphthalenyl, or dithianaphthalenyl substituted by one lower alkyl, or a salt thereof.

Claim 10 (Previously Presented): The sulfonamide compound of claim 7, wherein A is benzothiophenyl substituted by one lower alkyl, or a salt thereof.

Claim 11 (Currently Amended): A method for producing a compound of the formula (I)

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^2 \quad (I)$$

wherein

R^1 is an optionally substituted alkyl, an optionally substituted alkenyl, an optionally substituted alkynyl, an optionally substituted cyclo(lower)alkyl, an optionally substituted aryl or an optionally substituted heterocyclic group;

A is an optionally substituted heteropolycyclic group in which sulfur is the only heteroatom(s);

X is an alkylene, an oxa, an oxa(lower)alkylene, a lower alkylene-oxa, a carbonyl, a lower alkenylene, an optionally substituted imino, an optionally N-substituted imino(lower)alkylene, an N-substituted lower alkyleneimino, a thioxa(lower)alkylene or a lower alkylenethioxa; and

R^2 is an optionally substituted aryl, an optionally substituted heterocyclic group or a substituted biphenylyl;

comprising:

(1) reacting a compound of the formula (II)

$$R^1\text{-}SO_2NH_2 \qquad (II)$$

wherein each symbol is as defined above, or a salt thereof, and a compound of the formula (III)

$$HOOC\text{-}A\text{-}X\text{-}R^2 \qquad (III)$$

wherein each symbol is as defined above, or a reactive derivative thereof at carboxy or a salt thereof, to give a compound of the formula (I):

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^2 \qquad (I)$$

wherein each symbol is as defined above, or a salt thereof; or

(2) reducing a compound of the formula (I-1):

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^{201} \qquad (I\text{-}1)$$

wherein R^{201} is an optionally substituted aryl, an optionally substituted heterocyclic group or a substituted biphenylyl, all of which having at least alkynyl, aryl(lower)alkenyl, terminal nitro or terminal formyl and other symbols are as defined above, or a salt thereof, to give a compound of the formula (I-2):

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^{202} \qquad (I\text{-}2)$$

wherein R^{202} is an optionally substituted aryl, an optionally substituted heterocyclic group or a substituted biphenylyl, all of which having at least alkyl, aryl(lower)alkyl, terminal amino or hydroxymethyl, and other symbols are as defined above, or a salt thereof; or

(3) oxidizing a compound of the formula (I-3):

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^{203} \qquad (I\text{-}3)$$

wherein R^{203} is an optionally substituted aryl, an optionally substituted heterocyclic group or a substituted biphenylyl, all of which having at least terminal formyl, and other symbols are as defined above, or a salt thereof, to give a

compound of the formula (I-4):

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^{204} \qquad (I\text{-}4)$$

wherein R^{204} is an optionally substituted aryl, an optionally substituted heterocyclic group or a substituted biphenylyl, all of which having at least carboxy, and other symbols are as defined above, or a salt thereof; or

(4) acylating a compound of the formula (I-5):

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^{205} \qquad (I\text{-}5)$$

wherein R^{205} is an optionally substituted aryl, an optionally substituted heterocyclic group or a substituted biphenylyl, all of which having at least hydroxy(lower)alkyl, and other symbols are as defined above, or a salt thereof, to give a compound of the formula (I-6):

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^{206} \qquad (I\text{-}6)$$

wherein R^{206} is an optionally substituted aryl, an optionally substituted heterocyclic group or a substituted biphenylyl, all of which having at least acyloxy(lower)alkyl, and other symbols are as defined above, or a salt thereof; or

(5) introducing an aryloxy group into a compound of the formula (I-6):

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^{206} \qquad (I\text{-}6)$$

wherein each symbol is as defined above, or a salt thereof, to give a compound of the formula (I-7):

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^{207}$$

wherein R^{207} is an optionally substituted aryl, an optionally substituted heterocyclic group or a substituted biphenylyl, all of which having at least aryloxy(lower)alkyl, and other symbols are as defined above, or a salt thereof; or

(6) introducing a carboxy-protecting group into a compound of the formula I-4 [[(1-4)]]:

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^{204} \qquad (I\text{-}4)$$

wherein each symbol is as defined above, or a reactive derivative thereof, to give a compound of the formula I-8 [[(1-8)]]:

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^{208} \qquad (I\text{-}8)$$

wherein R^{208} is an optionally substituted aryl, an optionally substituted heterocyclic group or a substituted biphenylyl, all of which having at least protected carboxy, and other symbols are as defined above, or a salt thereof; or

(7) amidating a compound of the formula (I-4):

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^{204} \qquad (I\text{-}4)$$

wherein each symbol is as defined above, or a reactive derivative thereof, to give a compound of the formula (I-9):

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^{209} \qquad (I\text{-}9)$$

wherein R^{209} is an optionally substituted aryl, an optionally substituted heterocyclic group or a substituted biphenylyl, all of which having at least optionally substituted amide, and other symbols are as defined above, or a salt thereof; or

(8) adding a nitrogen-containing heterocyclic group to a compound of the formula (I-10):

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^{210} \qquad (I\text{-}10)$$

wherein R^{210} is an optionally substituted aryl having at least a halogen atom, and other symbols are as defined above, or a salt thereof, to give a compound of the formula (I-11):

$$R^1\text{-}SO_2NHCO\text{-}A\text{-}X\text{-}R^{211} \qquad (I\text{-}11)$$

wherein R^{211} is an aryl substituted by at least heterocyclic group having nitrogen, and other symbols are as defined above, or a salt thereof.

Claim 12 (Original): A pharmaceutical composition comprising the sulfonamide compound of claim 1 or a pharmaceutically acceptable salt thereof.

Claim 13 (Cancelled)

Claim 14 (Currently Amended): A method for producing a therapeutic composition ~~agent~~ comprising:

admixing the sulfonamide compound of claim 1 with a pharmaceutically acceptable carrier or excipient.

Claim 15 (Currently Amended) A method for reducing the level of blood sugar comprising:

administering to a subject in need thereof an effective amount of the sulfonamide compound of claim 1 or a pharmaceutically acceptable salt thereof ~~to a subject in need thereof for a time and under conditions~~ in an amount effective to reduce the level of blood sugar.

Claims 16-17 (Cancelled)

Claim 18 (Previously Presented) The composition of claim 12 that is in a form suitable for oral, parenteral, external, or local administration.

Claim 19 (Previously Presented) The composition of claim 12 that is in the form of a capsule, tablet, sugar-coated tablet, granule, suppository, liquid, solvate, lotion, suspension, emulsion, ointment, or gel.

Claim 20 (Previously Presented) The composition of claim 12, further comprising an adjuvant auxiliary, auxiliary substance, stabilizer, moistening agent, emulsifier, or buffering agent.